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N77X  
U1S S1820 S1824 S1859 S3042**

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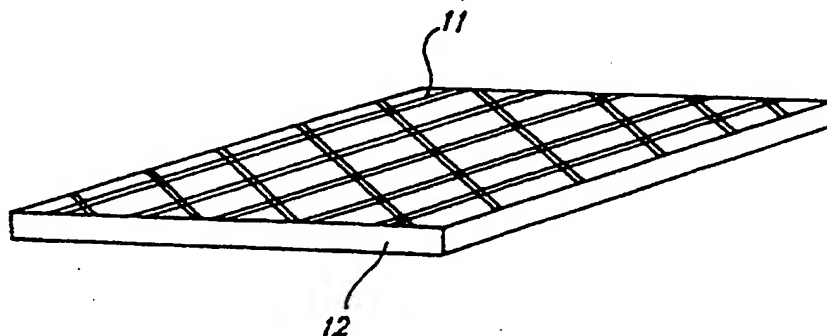
**GB 2041742 A EP 0689785 A1 WO 93/09940 A2  
FR 002592334 A1 FR 002585383 A1 US 5431979 A  
US 5213874 A**

(58) Field of Search

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ONLINE:WPI**

(54) Forming a cut resistant material

(57) A cut resistant material is formed by applying a metallic material (12) to a polymeric material (example PVC) (11) and then applying a further polymeric layer (13) over the metallic layer (12) to encapsulate the metallic material (12) in polymeric material (11,13). The metallic material (12) within the polymeric material (11,13) acts to resist cutting by a blade or other cutting instrument. The material of the invention can be connected to an electrical supply, the metallic material (12) being conducting whereby upon contact with this material a person would receive an electrical shock.



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**A METHOD OF FORMING A CUT RESISTANT MATERIAL**

This invention relates to a method of forming a cut resistant material.

A problem arises when flexible materials are used as covering materials, for example as soft top car roofs, tonneau covers, side covers for articulated trailers and commercial vehicles, insofar as such materials can usually be reasonably easy to cut using a knife or other cutting implement and therefore access can be gained to the vehicle through the material permitting a security risk.

It is an object of the present invention to provide a method of forming a cut resistant material whereby the material can be used for purposes such as those described above with a minimised security risk to the contents of vehicles.

According to a first aspect of the present invention therefore there is provided a method of forming a cut resistant material comprising applying a metallic material to a flexible cover material, said metallic material acting to resist cutting of the cover material.

With this method it is possible to produce a material which has greater resistance to cutting than prior art materials.

Preferably the metallic material is woven or knitted in form prior to application to the cover material. Alternatively the metallic material can be of any suitable form as desired or as appropriate.

Preferably the cover material comprises a polymeric material and most

The method of the invention comprises applying a layer of a metallic material 11 to a polymeric material 12, preferably polyvinylchloride (PVC). The metallic material 11 can be applied to the polymeric layer 12 in any suitable manner, but preferably it is coated onto the polymeric layer.

5           In the drawing the metallic layer 12 is shown in the form of a mesh, however the metallic layer can take any form as desired or as appropriate and therefore may be continuous or discontinuous and may be formed from woven or knitted strands or pieces of metallic material.

10           In a preferred embodiment, as shown in the figure, further polymeric material 12 is applied to cover the metallic material 11 whereby the metallic material 11 is encapsulated within said polymeric material 12, 13.

15           Due to the presence of the metallic layer 12, the material has resistance to cutting by a blade or other cutting instrument. Indeed, it is thought that the material will be cut resistant to all but a very determined thief who is prepared to spend considerable time in the attempt to penetrate the material. Of course, it will be realised that a thief is not usually prepared to take such a length of time to attempt to gain entry and therefore the security of the vehicle is increased if the material of the invention is used.

20           It is also possible with material produced by the present invention to be connected up to an electrical source (not shown), e.g. vehicle battery, such that, upon contact with the material, a person would receive a small

CLAIMS

1. A method of forming a cut resistant material comprising applying a metallic material to a flexible cover material, said metallic material acting to resist cutting of the cover material.
- 5 2. A method according to claim 1 wherein the metallic material is woven prior to application to the cover material.
3. A method according to claim 1 wherein the metallic material is knitted prior to application to the cover material.
4. A method according to any one of claims 1 to 3 wherein the cover  
10 material comprises a polymeric material.
5. A method according to claim 4 wherein said polymeric material comprises polyvinylchloride (PVC).
6. A method according to claim 4 or claim 5 wherein the polymeric material is applied to the surface of the polymeric cover material so as to  
15 cover the metallic material whereby similar type material is encapsulated within polymeric material.
7. A cut resistant cover material comprising a polymeric material which has applied thereto a metallic material, said metallic material acting to resist cutting of the cover material.
- 20 8. A cut resistant cover according to claim 7 in combination with an electrical supply, said electrical supply being connected to said material whereby a small current can be passed through the metallic material.



Application No: GB 9619645.6  
Claims searched: 1 to 10

Examiner: R.J.MIRAMS  
Date of search: 10 December 1997

**Patents Act 1977**  
**Search Report under Section 17**

**Databases searched:**

UK Patent Office collections, including GB, EP, WO & US patent specifications, in:

UK Cl (Ed.O): B5N

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Other: ONLINE: WPI.

**Documents considered to be relevant:**

Category	Identity of document and relevant passage	Relevant to claims
X	GB2041742A - (Etablissements M Duret et Fils) whole document	at least 1 to 7
X	EP0689785A1 ✓ (Irausa-Loire) whole document	at least 1, 4, 6 and 7
X	FR2592334A1 ✓ (Sable) see abstract	at least 1 to 3 and 7
X	FR2585383A1 ✓ (Zilli) see abstract	at least 1 to 4 and 7
A	US5431979A ✓ (Dellinger)	
X	US5213874A ✓ (Prudhomme) whole document	at least 1 to 4 and 7
X	WO93/09940A2 ✓ (Memtec) e.g. page 11 lines 23 to 37	at least 1 to 4 and 7

Document indicating lack of novelty or inventive step  
Document indicating lack of inventive step if combined with one or more other documents of same category.

Member of the same patent family

A Document indicating technological background and/or state of the art.  
P Document published on or after the declared priority date but before the filing date of this invention.  
E Patent document published on or after, but with priority date earlier than, the filing date of this application.